

### REMARKS

Reconsideration and allowance of the application are respectfully requested in light of the above amendments and the following remarks.

Applicants acknowledge with appreciation the indication in the Office Action that claims 4-6 and 9 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-11 have been amended for clarity and antecedent basis, and new claim 12 has been added. Support for the subject matter of new claims 12 is provided, for example, in paragraph [0066] of the published specification. (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments).

Claims 1, 10 and 11 were rejected, under 35 U.S.C. § 102(b), as being anticipated by Ishii et al (US 7,363,057) (hereinafter, “Ishii”). Claim 3 was rejected, under 35 U.S.C. § 103(a), as being unpatentable over Ishii in view of Takano et al. (US 7,308,015) (hereinafter, “Takano ‘015”). Claims 2, 7 and 8 were rejected, under 35 U.S.C. § 103(a), as being unpatentable over Ishii in view of Takano et al. (US 6,985,752) (hereinafter, “Takano ‘752”). To the extent that these rejections may be deemed applicable to the claims presented herein, the Applicants respectfully traverse as follows.

Claim 1 now defines a communication apparatus that estimates a speed of a change in a propagation path condition, changes a method of estimating a communication quality of a received signal, based on the estimated speed of the change in the propagation path condition, and estimates the communication quality. The estimated communication quality is transmitted to a communicating party. Then, the communication apparatus receives data modulated in a

modulation scheme determined by the communicating party based on the estimated communication quality, and demodulates the received data.

The claimed subject matter recited by claim 1 provides an advantage of determining a modulation scheme to be switched to according to the reception quality, with high accuracy, by increasing the reliability of the measurement result of the reception quality, so that it is possible to improve the transmission efficiency. Specification, par. [0062].

In contrast, by way of review, Ishii is directed towards “a mobile communication system that uses an adaptive antenna in a base station and carries out downlink data transmission to a mobile station.” Col. 3, ll. 64-67. According to Ishii, in the mobile communication system employing this configuration (i.e., the “adaptive antenna”), “...even when the base station performs a directivity control for packet data transmission which is different from that of the common pilot channel, since the mobile station can estimate the communication path quality and notify it to the base station, such a control is enabled that matches the communication path quality of a channel that carries out packet data transmission.” Col. 4, ll. 44-51.

The Office Action alleges that Ishii discloses, in column 9, lines 14-30 and column 7, lines 51-60, the feature of “a propagation path condition estimation section that estimates a speed of a change in a propagation path condition,” as recited by claim 1. Office Action, pg. 3.

However, Ishii does not disclose this recited feature of claim 1. Instead, col. 9, lines 14-32 of Ishii discloses:

“FIG. 6 shows the operation when a time is used as selection means. When data is received (step S1 in FIG. 6), the mobile station 2 demodulates user data if present (step S3 in FIG. 6). Further, in selection of a channel to be used for estimation of the communication path quality, the mobile station 2 checks an elapsed time from a time instant when the user data was last received (step S2 in FIG. 6). When a predetermined time has elapsed, the mobile station 2 uses the common pilot channel for quality estimation (step S4 in FIG. 6), while, when the

user data is being received, the mobile station 2 uses the dedicated control channel for quality estimation (step S5 in FIG. 6), and the mobile station 2 uses a last estimated value within the predetermined time. Until the user data is finished (step S6 in FIG. 6), the mobile station 2 repeats the foregoing operation. Here, the predetermined time can be determined, for example, depending on a moving speed of the mobile station 2.”

Furthermore, col. 7, lines 51-60 of Ishii disclose:

“An output of the receiving section 23 is inputted into the channel selecting section 24 serving for communication path quality estimation, the quality estimating section 27, the communication path estimating section 25 that carries out communication path estimation of the user data channel, and the user data detecting section 26, respectively.”

This is, with the technique disclosed in Ishii, a channel to be used for estimating communication quality is selected based on a comparison between an elapsed time when the mobile station receives last user data and a predetermined time determined according to a moving speed of the mobile station. Therefore, Ishii only discloses comparing the elapsed time and the predetermined time, and, thus, fails to disclose estimating the speed of a “change in a propagation path condition,” as recited by claim 1.

In fact, the only reference to a “speed” anywhere throughout the above-cited portions of Ishii is at col. 9, ll. 31-32, where Ishii discloses determining the predetermined time based on a “moving speed of the mobile station 2.” However, “determining a predetermined time” based on a “moving speed” of a mobile station is not the same as “estimating the speed of a change in a propagation path condition,” as recited by claim 1. Ishii does not mention estimating the speed of a change in anything. Rather, Ishii simply notes that the predetermined time is determined based on a moving speed of a mobile station.

Accordingly, it is respectfully submitted that the rejection of instant claim 1 should be withdrawn for at least this reason.

Furthermore, the Office Action also alleges that the Applicant's claimed propagation path condition estimation section is anticipated by Ishii's communication path estimation 25, shown in FIG. 3 of Ishii, and further alleges that the Applicant's claimed communication quality estimation section is anticipated by Ishii's quality estimating section 27 in FIG. 3 of Ishii. Office Action, pg. 3.

However, according to the communication apparatus of claim 1, the "communication quality estimation section...changes a method of estimating a communication quality of a received signal, based on the estimated speed of the change in the propagation path condition, and estimates the communication quality (emphasis added)."

In contrast, Ishii does not disclose that the "quality estimating section 27" "changes a method of estimating a communication quality of a received signal, based on" information output from the "communication path estimating section 25". In fact, in FIG. 3 of Ishii, no signal line is disclosed from block 25 to block 27, and block 27 does not perform processing based on the result of block 25. Furthermore, both FIG. 3 and the specification (col. 7, ll. 58) of Ishii disclose that the user data detecting section 26, and not the quality estimating section 27, use information output from the communication path estimating section 25. Therefore, the Applicants submit that the Office Action's allegations are not supported by the disclosure of Ishii.

Finally, the Office Action alleges that the "quality estimating section 27" of Ishii "changes a method of estimating the communication quality, based on the speed of the change in the propagation path condition," as recited by claim 1. Office Action, page 3. Specifically, the Office Action states:

“Ishii discloses a communication apparatus comprising (fig. 3)... a communication quality estimation section (*quality estimation section*; 27) that changes a method of estimating the communication quality based on the speed of the change in the propagation path condition (*fig. 4 shows the quality estimation section*; col. 8, lines 8-45. *The received signal is delayed (delay devices) depending on the path timing (for ex: predetermined time of the moving speed of the mobile station) and inputted into the despreaders 272-1 to 272-k (where K = numbers of multipaths) and estimates communication quality (col. 8 lines 1-8).*”

However, Ishii does not disclose that its quality estimation section 27 “...changes a method of estimating the communication quality, based on the speed of the change in the propagation path condition (emphasis added),” as recited by claim 1. Ishii does not even mention any alternative methods that can be used to estimate communication quality. Instead, Ishii describes that the quality estimation section 27 uses one method to estimate quality, and more specifically as pointed out in the Office Action, uses a method where “the received signal is delayed by the delay devices 271-1 to 271-(K-1) depending on path timing and inputted into the despreaders 272-1 to 272-K,” (col. 8, ll. 9-13). Furthermore, Ishii’s statement that the amount of delay depends on “path timing” does not indicate that different methods are used to estimate communication quality, rather this simply indicates that the amount of delay may change.

Therefore, it is noted that Ishii does not disclose or suggest the Applicants’ claimed features of “a propagation path condition estimation section that estimates a speed of a change in a propagation path condition,” and “a communication quality estimation section that changes a method of estimating a communication quality of a received signal, based on the estimated speed of the change in the propagation path condition, and estimates the communication quality,” as recited by claim 1.

Accordingly, the Applicants respectfully submit that Ishii does not disclose each of the features recited by claim 1, and thus, does not anticipate this subject matter defined by claim 1. Independent claims 2, 10 and 11 similarly recite the above-mentioned subject matter distinguishing apparatus claim 1 from Ishii, but with respect to another apparatus and methods. Therefore, allowance of claims 1, 2, 10 and 11 and claims dependent therefrom is considered to be warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a direct communication, the Examiner is requested to e-mail the undersigned at the address listed below.

Respectfully submitted,

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